

Claims

We claim:

1. A computer-implemented method for programmatically modifying a
5 graphical program, comprising:

executing a graphical program generation (GPG) program;

the GPG program receiving information, wherein the information specifies
functionality of the graphical program;

the GPG program programmatically modifying the graphical program in response
10 to said information specifying the functionality of the graphical program, such that the
graphical program implements the specified functionality.

2. The method of claim 1,

wherein the information specifies a change to functionality of the graphical
15 program;

wherein said programmatically modifying the graphical program comprises
implementing the specified change to functionality of the graphical program.

3. The method of claim 1, wherein said programmatically modifying the
20 graphical program comprises modifying the graphical program without any user input
specifying the modification during said modifying.

4. The method of claim 1, wherein the graphical program comprises a
plurality of interconnected nodes that visually indicate functionality of the graphical
25 program.

5. The method of claim 4, wherein said programmatically modifying the
graphical program includes programmatically changing interconnections among the
plurality of interconnected nodes.

6. The method of claim 1, wherein the graphical program includes a block diagram portion comprising a plurality of interconnected nodes;

wherein said programmatically modifying the graphical program includes
5 programmatically modifying the block diagram portion.

7. The method of claim 1, wherein the graphical program includes a user interface portion;

wherein said programmatically modifying the graphical program includes
10 programmatically modifying the user interface portion.

8. The method of claim 1,
wherein the graphical program is a virtual instrument.

9. The method of claim 1,
15 wherein the GPG program is a graphical program.

10. The method of claim 1,
wherein the information specifies new functionality of the graphical program;
20 wherein said programmatically modifying the graphical program comprises programmatically modifying the graphical program such that the graphical program implements the new functionality.

11. The method of claim 1,
25 wherein said programmatically modifying the graphical program comprises programmatically adding graphical source code to the graphical program.

12. The method of claim 1,

wherein said programmatically modifying the graphical program comprises programmatically removing graphical source code from the graphical program.

13. The method of claim 1,
5 wherein the graphical program implements a computational process;
wherein the information received by the GPG program specifies a change to the computational process;
wherein the GPG program is operable to programmatically modify the graphical program such that the graphical program implements the changed computational process.

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14. The method of claim 1,
wherein the graphical program implements an algorithm;
wherein the information received by the GPG program specifies a change to the algorithm;
15 wherein the GPG program is operable to programmatically modify the graphical program such that the graphical program implements the changed algorithm.

15. The method of claim 1,
wherein the graphical program implements a prototype;
20 wherein the information received by the GPG program specifies a change to the prototype;
wherein the GPG program is operable to programmatically modify the graphical program such that the graphical program implements the changed prototype.

16. The method of claim 1,
25 wherein the graphical program implements a test executive sequence;
wherein the information received by the GPG program specifies a change to the test executive sequence;

wherein the GPG program is operable to programmatically modify the graphical program such that the graphical program implements the changed test executive sequence.

- 5 17. The method of claim 1,
 wherein said GPG program receiving information comprises the GPG program receiving user input specifying desired functionality of the graphical program;
 wherein the GPG program is operable to programmatically modify the graphical program to implement the specified desired functionality.

- 10 18. The method of claim 1,
 wherein the GPG program is operable to perform a plurality of modifications to the graphical program, depending on the received information.

- 15 19. The method of claim 1,
 wherein said GPG program programmatically modifying the graphical program comprises the GPG program calling an application programming interface (API) enabling the programmatic modification of a graphical program.

- 20 20. The method of claim 1,
 wherein said GPG program programmatically modifying the graphical program comprises the GPG program programmatically requesting a server program to modify the graphical program.

- 25 21. The method of claim 20,
 wherein the server program is an application instance of a graphical programming environment.

22. The method of claim 1,

28. The method of claim 25, further comprising:

locking the graphical program, wherein said locking prevents a user from modifying the graphical program.

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29. A method for programmatically modifying a graphical program, the method comprising:

executing a graphical program generation (GPG) program;

the GPG program receiving initial information, wherein the initial information
10 specifies functionality of a graphical program;

the GPG program programmatically generating the graphical program in response to said initial information specifying the functionality of the graphical program, wherein the graphical program implements the specified functionality;

the GPG program receiving subsequent information, wherein the subsequent
15 information specifies modified functionality of the graphical program;

the GPG program programmatically modifying the graphical program in response to said subsequent information specifying modified functionality of the graphical program, such that the graphical program implements the specified modified functionality.

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30. A method for creating a graphical program, the method comprising:

receiving user input specifying initial program information;

programmatically generating a graphical program in response to the initial
25 program information;

performing the following one or more times:

receiving user input specifying subsequent program information;

programmatically modifying the graphical program in response to the subsequent program information.

wherein said programmatically modifying the graphical program includes programmatically changing interconnections among the plurality of interconnected nodes.

37. The method of claim 30,
5 wherein the graphical program includes a block diagram portion;
wherein said programmatically modifying the graphical program includes programmatically modifying the block diagram portion.

38. The method of claim 30,
10 wherein the graphical program includes a user interface portion;
wherein said programmatically modifying the graphical program includes programmatically modifying the user interface portion.

39. The method of claim 30,
15 wherein said programmatically modifying the graphical program comprises programmatically adding graphical source code to the graphical program.

40. The method of claim 30,
20 wherein said programmatically modifying the graphical program comprises programmatically removing graphical source code from the graphical program.

41. The method of claim 30, further comprising:
displaying the programmatically modified graphical program after said
programmatically modifying the graphical program

42. The method of claim 30, further comprising:
locking the graphical program, wherein said locking prevents a user from directly
modifying the graphical program.

programmatically modify the graphical program in response to said information specifying the functionality of the graphical program, such that the graphical program implements the specified functionality.

5 47. The memory medium of claim 46,
 wherein the information specifies a change to functionality of the graphical program;

 wherein said programmatically modifying the graphical program comprises implementing the specified change to functionality of the graphical program.

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 48. The memory medium of claim 46,

 wherein said programmatically modifying the graphical program comprises modifying the graphical program without any user input specifying the modification during said modifying.

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 49. The memory medium of claim 46,

 wherein the graphical program comprises a plurality of interconnected nodes that visually indicate functionality of the graphical program.

20 50. The memory medium of claim 49, wherein said programmatically modifying the graphical program includes programmatically changing interconnections among the plurality of interconnected nodes.

 51. The memory medium of claim 46, wherein the graphical program includes
25 a block diagram portion comprising a plurality of interconnected nodes;

 wherein said programmatically modifying the graphical program includes programmatically modifying the block diagram portion.

52. The memory medium of claim 46, wherein the graphical program includes a user interface portion;

wherein said programmatically modifying the graphical program includes programmatically modifying the user interface portion.

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53. The memory medium of claim 46,

wherein the information specifies new functionality of the graphical program;

wherein said programmatically modifying the graphical program comprises programmatically modifying the graphical program such that the graphical program implements the new functionality.

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54. The memory medium of claim 46,

wherein said programmatically modifying the graphical program comprises programmatically adding graphical source code to the graphical program.

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55. The memory medium of claim 46,

wherein said programmatically modifying the graphical program comprises programmatically removing graphical source code from the graphical program.

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56. A memory medium comprising program instructions executable to:

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receive user input specifying initial program information;

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programmatically generate a graphical program in response to the initial program information;

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perform the following one or more times:

receive user input specifying subsequent program information;

programmatically modify the graphical program in response to the subsequent program information.

57. The memory medium of claim 56,
wherein the subsequent program information comprises a modification to the
initial program information.

5 58. The memory medium of claim 56,
wherein the subsequent program information specifies a change to functionality of
the graphical program;
wherein said programmatically modifying the graphical program comprises
implementing the specified change to functionality of the graphical program.

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59. The memory medium of claim 56,
wherein the subsequent program information specifies new functionality of the
graphical program;
wherein said programmatically modifying the graphical program comprises
15 programmatically modifying the graphical program such that the graphical program
implements the new functionality.

60. The memory medium of claim 56,
wherein said programmatically modifying the graphical program comprises
20 modifying the graphical program without any user input specifying the modification
during said modifying.

61. The memory medium of claim 56,
wherein the graphical program comprises a plurality of interconnected nodes that
25 visually indicate functionality of the graphical program.

62. The memory medium of claim 61,
wherein said programmatically modifying the graphical program includes
programmatically changing interconnections among the plurality of interconnected nodes.

wherein the graphical program comprises a plurality of interconnected nodes that visually indicate functionality of the graphical program.

68. The system of claim 67,

5 wherein said programmatically modifying the graphical program includes programmatically changing interconnections among the plurality of interconnected nodes.

69. The system of claim 65, wherein the graphical program includes a block diagram portion;

10 wherein said programmatically modifying the graphical program includes programmatically modifying the block diagram portion.

70. The system of claim 65, wherein the graphical program includes a user interface portion;

15 wherein said programmatically modifying the graphical program includes programmatically modifying the user interface portion.

71. The system of claim 65,

20 wherein said programmatically modifying the graphical program comprises programmatically adding graphical source code to the graphical program.

72. The system of claim 65,

25 wherein said programmatically modifying the graphical program comprises programmatically removing graphical source code from the graphical program.

73. A system for programmatically creating a graphical program, the system comprising:

